

CLAIMS

1. A rotation transmission device which is provided in a base body assembly having a first base body and a second base body connected together to be rotatable relative to each other, rotation being transmitted between a first rotary body provided on the first base body and a second rotary body provided on the second base body, comprising:

a first planetary gear mechanism having a first gear rotatable around a rotation center, a second gear arranged coaxially with the first gear, a first planetary gear body meshed with the first gear and the second gear to make a planetary movement relative to the first gear and the second gear, and a first carrier body rotated around the rotation center relative to the first gear and the second gear with a revolution of the first planetary gear body with respect to the first gear and the second gear; and

a second planetary gear mechanism having a third gear rotatable around the rotation center, a fourth gear arranged coaxially with the third gear, a second planetary gear body meshed with the third gear and the fourth gear to make a planetary movement relative to the third gear and the fourth gear, and a second carrier body rotated around the rotation center relative to the third gear and the fourth gear with a revolution of the second planetary gear body with respect to the third gear and the fourth gear, wherein:

the ratio of the pitch circle diameters of the third gear, the fourth gear, and the second planetary gear body is the same as the ratio of the pitch circle diameters of the first gear, the second gear, and the first planetary gear body;

assuming that the third gear is an element corresponding to the first gear, that the fourth gear is an element corresponding to the second gear, and that the second carrier body is an element corresponding to the first carrier body, a connecting element, which is one of the first gear, the second gear, and the first carrier body, rotates integrally with an element corresponding to the connecting element;

a first base body side element, which is one of the two elements obtained by excluding the connecting element from the first gear, the second gear, and the first carrier body, is connected to the first base body to be rotatable with respect to the second base body through relative rotation of the first base body with respect to the second base body;

a second base body side element, which is obtained by excluding the connecting element and the first base body side element from the first gear, the second gear, and the first carrier body, is connected to the second base body to be rotatable with respect to the first base body through relative rotation of the second base body with respect to the first base body; and

rotation is transmitted between an element corresponding to

the first base body side element and the first rotary body, and rotation is transmitted between an element corresponding to the second base body side element and the second rotary body.

2. A rotation transmission device according to Claim 1, wherein the first gear is a first sun gear, the second gear is a ring-like first internal gear, and the first planetary gear body is a first planetary gear in mesh with the first internal gear and the first sun gear.

3. A rotation transmission device according to Claim 1, wherein the first gear and the second gear are spur gears of different diameters, and wherein the first planetary gear body has a first spur gear portion in mesh with the first gear, and a second spur gear portion coaxially fixed to the first spur gear portion to rotate integrally with the first spur gear portion and in mesh with the second gear.

4. A rotation transmission device according to Claim 1, wherein the base body assembly has three or more base bodies connected together in series to be rotatable relative to each other, and wherein the first planetary gear mechanism and the second planetary gear mechanism are arranged at each joint portion, using base bodies adjacent to each other as the first and second base bodies.